

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A wireless communication system
2 comprising:
3 a radio module operable to communicate data between a host and at least one
4 external device;
5 at least one digital module operable to process data communicated by said radio
6 module;
7 a clock generator for generating first and second clock signals for use by said
8 digital module; and
9 power management logic operable to:
10 control said clock generator to cause said clock generator to generate said
11 first clock signal when said wireless communication system is
12 operating in a first power mode and to generate said second clock
13 signal when said wireless communication system is operating in a
14 second power mode; and
15 calibrate the frequency of said clock generator while said wireless
16 communication system is operating in said second power mode.

1 2. (Original) The wireless communication system of claim 1
2 wherein said radio module is turned on when said wireless communication system is
3 operating in said first power mode.

1 3. (Original) The wireless communication system of claim 2,
2 wherein said first clock signal is a high-speed clock generated by said clock generator
3 when said radio module is turned on.

1 4. (Original) The wireless communication system of claim 2,
2 wherein said first clock signal is generated by a crystal and a phase-locked loop.

1 5. (Original) The wireless communication system of claim 1,
2 wherein said radio module is turned off when said communication system is operating
3 in said second power mode.

1 6. (Original) The wireless communication system of claim 5,
2 wherein said second clock signal is a lower frequency clock that is generated by said
3 clock generator when said radio is turned off.

1 7. (Original) The wireless communication system of claim 5,
2 wherein said second clock signal is generated by a low-power oscillator.

1 8. (Original) The wireless communication system of claim 1,
2 further comprising a timer operable to count clock cycles of said first and second
3 clock signals.

1 9. (Original) The wireless communication system of claim 8,
2 further comprising a timer management module operable to maintain a cumulative
3 count of the number of clock cycles counted by said timer during a predetermined
4 time interval.

1 10. (Original) The wireless communication system of claim 9,
2 wherein said timer is operable to count the number of clock cycles for said first clock
3 when said wireless communication system is operating in said first power mode and
4 is further operable to count the number clock cycles for said second clock signal
5 when said wireless communication system is operating in said second power mode.

1 11. (Original) The wireless communication system of claim 10,
2 wherein the number of clock cycles counted by said timer when said wireless
3 communication system is operating in said second power mode is converted to an
4 equivalent number of clock cycles that would have been generated by said first clock
5 by using an adjustment factor based on the number of cycles said first clock would
6 generate during a single cycle of said second clock.

1 12. (Currently Amended) The wireless communication system of
2 claim 9, wherein said timer is operable to count the number of clock cycles for said
3 first clock when said wireless communication system is operating in said first power
4 mode and said timer does not count the number of clock cycles for said ~~first~~ second
5 clock signal when said wireless communication system is operating in said second
6 power mode.

1 13. (Original) The wireless communication system of claim 12,
2 wherein said timer management module is operable to generate updated timing
3 information using information provided by said power management logic regarding
4 the duration of the time interval that said wireless communication system is operating
5 in said second power mode.

1 14. (Currently Amended) A method of managing power in a wireless
2 communication system having a radio module operable to communicate data between
3 a host and at least one external device and at least one digital module operable to
4 process data communicated by said radio module, the method comprising:

5 generating a high-frequency first clock signal for use by said digital module when
6 said wireless communication system is operating in a first power mode
7 and a lower frequency second clock signal for use by said digital module
8 when said wireless communication system is operating in a second power
9 mode; and

10 using power management logic to:

11 control said clock generator to cause said clock generator to generate said
12 first clock signal when said wireless communication system is
13 operating in a said first power mode and to generate said second
14 clock signal when said wireless communication system is
15 operating in said second power mode; and

16 calibrate the frequency of said clock generator while said wireless
17 communication system is operating in said second power mode.

1 15. (Original) The method of claim 14 wherein said radio module
2 is turned on when said wireless communication system is operating in said first power
3 mode.

1 16. (Original) The method of claim 15, wherein said first clock
2 signal is a high-speed clock that is generated by said clock generator when said radio
3 module is turned on.

1 17. (Original) The method of claim 15, wherein said first clock
2 signal is generated by a crystal and a phase-locked loop.

1 18. (Original) The method of claim 17, wherein said radio module
2 is turned off when said communication system is operating in said second power
3 mode.

1 19. (Original) The method of claim 17, wherein said second clock
2 signal is a lower frequency clock that is generated by said clock generator when said
3 radio is turned off.

1 20. (Original) The method of claim 19, wherein said second clock
2 signal is generated by a low-power oscillator.

1 21. (Original) The method of claim 14, further comprising using a
2 timer to count clock cycles of said first and second clock signals.

1 22. (Original) The method of claim 21, further comprising using a
2 timer management module to maintain a cumulative count of the number of clock
3 cycles counted by said timer during a predetermined time interval.

1 23. (Original) The method of claim 22, further comprising using
2 said timer to count the number of clock cycles for said first clock when said wireless
3 communication system is operating in said first power mode and using said timer to
4 count the number clock cycles for said second clock signal when said wireless
5 communication system is operating in said second power mode.

1 24. (Original) The method of claim 23, wherein the number of
2 clock cycles counted by said timer when said wireless communication system is
3 operating in said second power mode is converted to an equivalent number of clock
4 cycles that would have been generated by said first clock by using an adjustment
5 factor based on the number of cycles said first clock would generate during a single
6 cycle of the said second clock.

1 25. (Currently Amended) The method of 22, wherein said timer counts
2 the number of clock cycles for said first clock when said wireless communication
3 system is operating in said first power mode and said timer does not count the number
4 of clock cycles for said first ~~second~~ clock signal when said wireless communication
5 system is operating in said second power mode.

1 26. (Original) The method of claim 25, further comprising using
2 said timer management module to generate updated timing information using
3 information provided by said power management logic regarding the duration of the
4 time interval that the wireless communication system is operating in said second
5 power mode.